

# NDIA LSI Concept

**NDIA Chapter San Diego Preliminary Study**

19 October 2004

# NDIA Study

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- **Problem Statement**
  - Describe a Lead System Integrator (LSI) contracting strategy for System Engineering & Integration
- **Objectives**
  - Performance-based
  - Potentially award an LSI contract for each PEO C4I function and for each Platform
  - SSC's are Technical Direction Agent and IV&V
- **Considerations**
  - C4I is a weapon system, rather than combat support
  - Focus on delivery of a capability, rather than product
  - LSI must be compatible with developing C4I capability for SCN
  - Contract(s) may be any type (probably not fixed price)
  - OCI must be addressed

## NDIA Study (continued)

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- **Deliverable**
  - **Contracting strategy and options, to include:**
    - Generic SOW
    - Performance metrics
    - Contract type
    - Lessons learned from examples that have worked and those that have not worked.
- **Term of Study**
  - **Ninety (90) days from approval by government facilitator**
- **Participants**
  - **Battelle Memorial Institute, George Klein**
  - **Northrop Grumman, George Wagner**
  - **Indus Technology, Jim Lasswell**
  - **SAIC, Doug Ray**
  - **BAH, Ed Brady**
  - **ComGlobal, Frank Hewitt**
  - **ARINC, Mike Woiwode**
  - **Lockheed Martin, Gerry Nifontoff**

## Possible Roles of the LSI – Functional LSI

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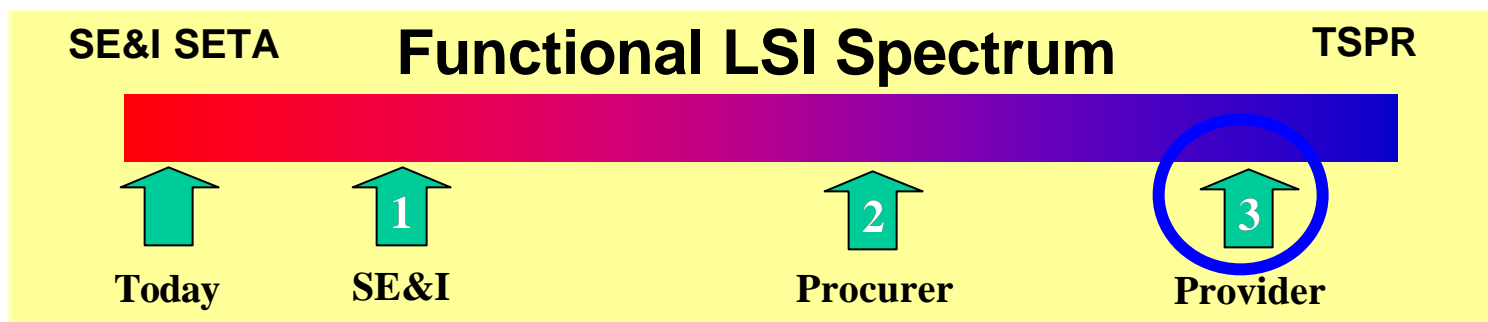
- **Three Options with Expanding Scope:**

- (1) **Systems Engineer and Integrator:**

- Develop Architecture
    - Develop implementing documents
    - Integrate development schedules
    - Develop top level integration/interoperability test requirements
    - Conduct integration test in functional environment
    - Develop system requirements for new programs.

## Possible Roles of the LSI – Functional LSI

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### (2) SE&I plus Product Procurement:

- All functions of (1)
- Develop procurement specifications
- Procure and accept products
- Integrate products and deliver capability

### (3) Overall Functional Capability Provider

- All functions of (1) & (2)
- Responsible for all development work
- Responsible for make/buy decisions
- Integrate at the sub-system and system level

## Possible Roles of the LSI – Platform LSI

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- **Different Roles from Platform LSIs. Options:**
  - (1) **Develop class capability plans based on functional programs**
    - Functional program development schedule integration
    - Do system procurement planning
    - Develop installation documentation
    - Test platform configuration prior to installation (first time)
    - Develop bid packages for alterations
  - (2) **Plan and Perform Installation Acceptance**
    - All functions as above
    - Set up LBTS for each system prior to install to validate configuration
    - Support all INCO at the shipyard
    - Conduct installation testing after shipyard installation
    - Sell off the system after testing

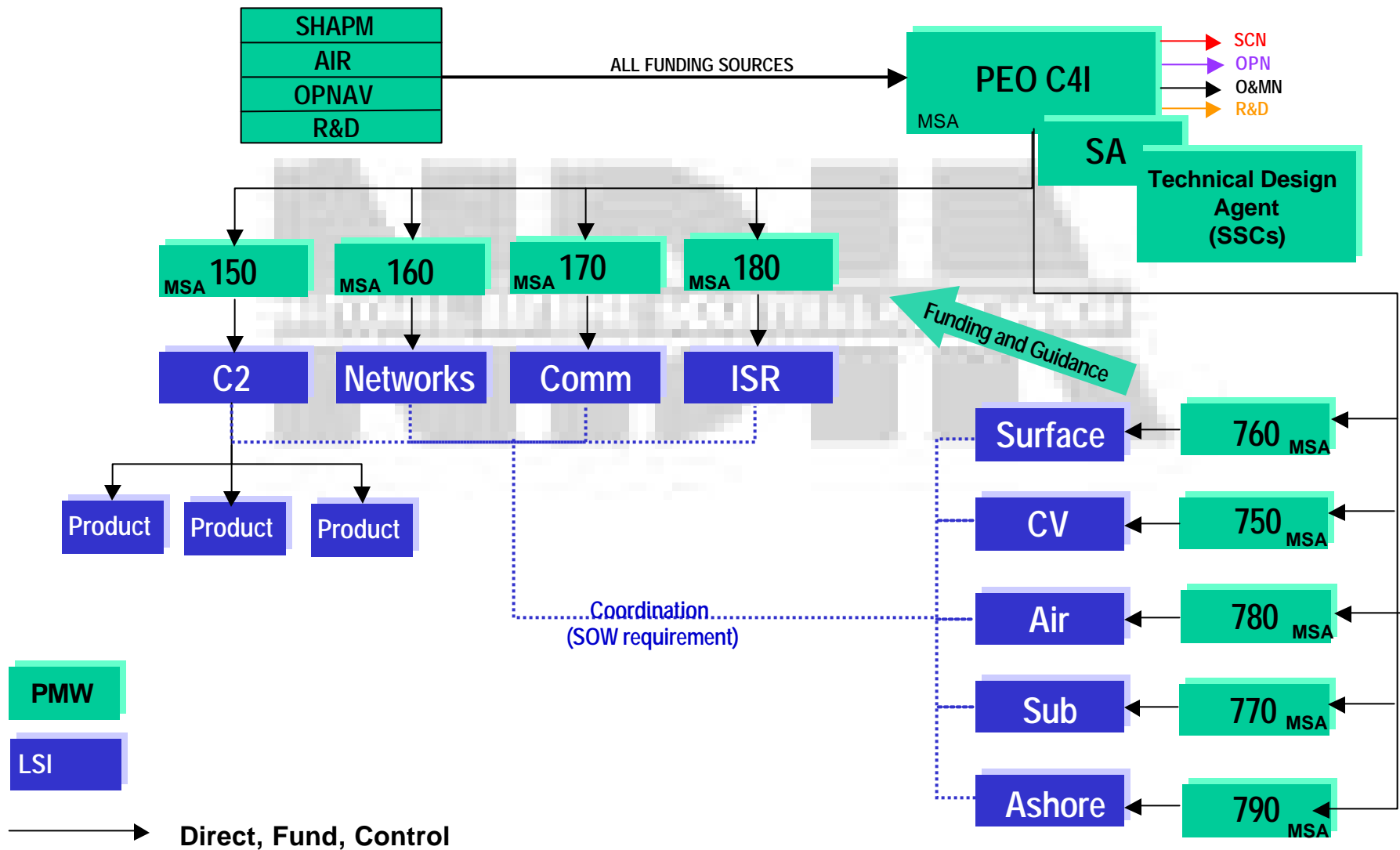
## Recommended LSI Approach

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- **Functional LSI**
  - **Adopt Option 3**
    - Provides one cradle-to-grave contractor for each Functional area
- **Platform LSI**
  - **Adopt Option 2**
    - Provides integrated platform solution
    - Reduces system installation risks
    - Engaged in product fielding
- **BUT, need a System Architect for overall C4ISR alignment**
  - Provide top-level C4I architecture
  - Allocate requirements to functional area
  - Integrate budget requirements
  - Final arbiter of disconnects among PMWs
  - Ensure PMW products meet required capabilities

# 30,000 ft LSI Model

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# System Architect Pros & Cons

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- **Pros**

- Provides the organizational structure needed to define the overall capability to be delivered by the Functional Program Managers
- Provides for a staff to manage the interfaces for the PEO
- Provides the PEO the element necessary to work with the FORCEnet architect in SPAWAR
- Provides for cross-coordination of a coherent architecture to the functional and platform LSIs
- Provides the ability to force development of integrated budget documents (Rs, Ps and 7300s) which, in the long term, fund the necessary overarching system engineering work
- Provides mechanism for integrated forecasting to the future
  - New capabilities and associated resource requirements
- Mitigates potential OCI issues for the LSIs by developing high level system functional and interface requirements for them to follow

- **Cons**

- Requires government hands-on leadership and possible additional PEO staff and funding not covered by existing budgets
- Overlaps with SPAWAR 05 – operating relationships will have to be worked out

## Proposed Functional LSI Pros & Cons

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- **Pros**

- **One contractor provides cradle to grave products/systems**
  - **Shifts burden of managing OEMs to a contractor that can be incentivized for speed to market, interoperability and integration success**
  - **Eliminates Government GFE risk for most items (over long term)**
  - **Reduces overall integration costs by minimizing, if not eliminating GFE**
  - **Reduces Government contract administration costs (over long term)**
  - **Facilitates trade-offs between up-front procurement costs and life cycle cost as the LSI is incentivized to prove the value of current year investments in reducing future year support costs.**
- **Increases opportunity to develop truly integrated product line**
- **More strategic view of evolution within the Functional area**
- **Potentially decreases integration difficulties within the functional area**
- **Integrated support provided after fielding**
- **Can address cross-platform interoperability issues/stovepipes during system development by working with the platform LSIs**
- **Reduces the cost generated by duplication of effort in the functional areas**
- **Provides Systems Engineering rationale to drive long term budget requirements across the functional area**

# Proposed Functional LSI Pros & Cons

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- **Cons**
  - **One contractor provides cradle to grave products/systems**
    - **Tied to LSI for a long time**
    - **LSI may not be incentivized to reduce support costs if it has life cycle support responsibilities**
  - **Increased management cost of LSI to execute multi-tiered programs**
  - **Requires government funding stability to effectively execute large programs**
  - **Requires government effort to transition legacy product acquisition responsibility to the LSI**
  - **Requires government involvement over selection of implementing contractors and solutions within the functional area**
  - **The Government organization has to be stable, since moving program responsibilities between PMWs will result in large LSI contract perturbations**
  - **Requires significant short to mid term investment in contracting resources**

# Proposed Platform LSI Pros & Cons

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- **Pros**
  - Provides specific NAVSEA/NAVAIR PEO(SHAPM) interfaces for platform capability initiatives
  - Provides for integrated planning to accomplish platform capability improvements
  - Consistent approach to installations
  - Better capability achieved in fleet, faster
  - Takes SSCs out of the “rack & stack” and installation business, freeing resources for other use
- **Cons**
  - Requires contractor with more Systems Engineering experience than past “installation contractors”
  - Takes SSCs out of the “rack & stack” and installation business, reducing revenue and overhead generation.
  - Requires PEO to eliminate overlap with SPAWAR 04 responsibilities
  - Requires agreement with SHAPMs on how C4I platform LSIs will interface with ship Integrated Warfare Systems providers

# LSI Contracting Strategy

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- **What should NOT be included in LSI scope:**
  - **System Architect (OCI restricted) support should be a SETA contractor ... but with a performance based contract**
  - **TDA, T&E, IV&V functions should be assigned to the SSCs, under the Government SA**
  - **Judiciously selected items**
    - **True commodity procurements**
    - **On-going major acquisition programs**
  - **All Functional PMWs in one LSI contract**
    - **Too large**
    - **Domains are diverse**
- **What SHOULD be included in the LSI scope?**
  - **A clearly defined architectural niche (what is the boundary for “Communications” performance?)**
  - **Full performance responsibility for the niche, and concomitant full authority to make design decisions below the requirements levied by the SA**
  - **Procurement of all components necessary to deliver that niche’s capability**

# LSI Contracting Strategy

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- This is a major cultural change – don't rush it
- **Compete for a System Architect (S.E.services contract) right away.** SA support should be in place before LSI contracts are in place. The SA should not be associated with an LSI bidder.
- **LSI contracts should be:**
  - Performance based IDIQ contract which allows both Fixed Price and Cost Plus tasks
  - Award term for the maximum term. No increased risk to the Government, but some incentive for industry
  - Potentially profitable. Factor large scale integration industry Return on Sales (ROS) needs (as opposed to engineering service industry needs) into the award fee structure. A “good” LSI should achieve 15% ROS.
  - Compete for a separate LSI for each functional group. These functional areas are different enough that they need their own management and technical focus. Besides, this is a PEO constraint
- **Compete for domain platform LSIs.**
  - Advantages of single behemoth are outweighed by risk of having only one capable source available
  - Difficulty of having one contractor work for more than one PMW
  - Platform procedures/processes are significantly different between air, ship, submarine

# LSI Contracting Strategy

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- **Full & Open Competition with down select to a Limited Competition**
  - **Evaluation factors should make it clear that the LSI must be capable of delivering complex systems at a \$100M/yr clip**
    - **Heavy emphasis on management capability.**
    - **EVMS use is routine**
    - **Engineering organization with depth**
    - **Proven subcontracts organization**
    - **Proven *transparent* “make/buy” process**
    - **CMMI Rating**
    - **Etc.**
  - **Have step-off options if LSI is not performing**
    - **Possibly two year option cycles**

# LSI Contracting Strategy

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- **Plan for complexity and don't let the schedule drive a bad procurement – Use a multi-step acquisition process**
  - Issue draft RFP for comment by industry
  - Establish cost (best value) criteria
  - Issue final RFP. Scope, Ts & Cs, evaluation criteria
    - 100 page “technical & management approach” appropriate to PMW. Ensure technical and management are in one inseparable volume since they are inseparable.
    - Acceptance of Ts & Cs
  - Candidates present a four hour oral presentation fleshing out the approach and answering questions
  - Down select to two viable candidates based on appeal of the approach
  - Award six month “planning” contracts to two winners to write draft SOW, Integrated Master Schedule to PEO defined capability required over the initial PoP and detailed planning packages. Allows winners to ramp up management capability and losers to redistribute themselves.
  - Update and re-issue RFP for limited competition.
  - Final proposal is the complete planning package (SOW, Integrated Master Schedule to PEO defined capability required over the initial PoP, Basis of Estimates), as evaluated through an Integrated Baseline Review, and a cost proposal based on the planning package.
  - Award a single LSI based on best value



# LSI Contracting Strategy

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- **Performance award fee metrics – see also “Prerequisites”**
  - **Detailed planning –**
    - **Integrated Baseline Review success**
    - **Availability of Technical Performance Measures for interim technical evaluation**
  - **Cost and schedule – via monthly EVMS**
  - **Schedule – baseline delivery dates met (if no contract perturbations)**
  - **Performance – Design walkthroughs inversely weighted by system complexity**
  - **Performance – Relative to Technical Performance Measures**
  - **Performance – at standard test points: SQT, FAT, system level testing, installation testing, end to end TECHEVAL**
  - **Meeting small business goals**
  - **Provide cost-sharing incentives for systems being procured and supported**

# LSI Strategy Prerequisites

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- **A simple and clear LSI model that explains to all players the division of labor between SA, TDA, LSI**
  - SA manages response to operational and program requirements and develops “A” level specification. This insulates LSIs from the main OCI concern
  - LSI designs, develops, integrates and installs to meet “A/B” spec requirement
  - TDA provides staff to ensure PEO is a “smart buyer”, performs acceptance tests....
- **A commitment to minimize GFE/GFI, including a workable plan to allow the LSIs to procure PEO-supported products directly from the OEMs with full Navy lifetime support.**
- **A management discipline within the PMWs that allows the LSI to perform once a cost, performance, schedule baseline is established**
- **A management discipline for contract change control that allows for flexibility, yet keeps the LSI on the hook for cost, schedule and performance**
- **Enhanced management training for PEO managers**
  - EVMS
  - Risk Management
  - Roles and responsibilities of PEO program managers

## Small Business Strategy

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- LSI concept is NOT detrimental to growth of small business. The opposite can be true.
- Establish small business goals for LSIs:
  - Total dollar value goal (may be different for different LSIs...e.g. a Satellite LSI and a software application LSI are clearly two extremes)
  - Number of small businesses goal
  - Conventional socio-economic goals
  - Incentivize goals through award fee formula
- Key Element: Although concept is not detrimental to small business growth, the shift of small business revenue to a subcontracted position would require and adjustment of SPAWAR's direct contracting goals.

## LSI Lessons Learned

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- **USAF ESC (AOC WS SPD) commissioned LSI Study that reviewed several Air Force programs using a LSI to determine Lessons Learned.**
  - **Findings:**
    - LSI is not a panacea
    - Does not reduce government staff
      - Continued government oversight and insight required
    - Does not result in cost savings
  - **Recommendations:**
    - LSI perform systems-of-systems engineering
    - LSI perform no development work
  - **Resulting AOC WS LSI Scope:**
    - Strategic Level
      - Design and maintain architecture
    - Operational Level
      - Perform systems engineering & integration functions
    - Tactical Level
      - Field and sustain AOCs and Training Suites

## LSI Lessons Learned

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- **SPAWAR SE&I Contract**
  - Original intent was to provide Engineering and Integration across all programs (much like LSI idea)
  - Funded by PMWs on Task Orders rather than centrally funded to perform overall SE&I task
  - Lack of central funding and direction resulted in SETA-like support contract execution
  - LSI will require broad task to provide integrated capability and be centrally funded
- **Implementing a LSI Approach:**
  - Percentage of labor mix needing to be applied to program management does not scale linearly
    - A larger PM burden is required in a complex program in exchange for accountability and success
  - Start up difficulties are magnified by unfamiliarity with the LSI business model...train Government managers up-front
  - ROS is an important motivator...properly managed

## Industry Concerns ....

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- **Ramifications of competing multiple LSI contracts at the same time:**
  - Will industry be able to bid them all at the same time?
  - Will the government be able to evaluate all of the proposals received?
  - What is the transition strategy?
- **Can PMWs adjust to the new business model?**
  - LSIs will not be SETA support contractors
  - The contract scope will govern contractor activities
  - Contract management “purity”
  - Acquisition oversight role by PMWs
- **OCI Issues:**
  - If the LSIs are prevented from competing for subordinate developments and activities there will be little interest in competing for a LSI contract
  - If not precluded from developments, the OCI Perception (LSI to Product Provider) requires government involvement in key selection events (e.g. trade studies, sub-contracting) to eliminate possible perception concerns

# Proposed System Architect Responsibilities

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Sys Arch Role	Associated Government Role
<ul style="list-style-type: none"> <li>Develop &amp; maintain the C4I component of the Fn architecture</li> </ul>	<ul style="list-style-type: none"> <li>Provide the Fn framework and requirements</li> <li>Approve the architecture</li> </ul>
<ul style="list-style-type: none"> <li>Define requirements for the “capability”, i.e. allocates requirements to the functional areas and across platforms</li> </ul>	<ul style="list-style-type: none"> <li>Approve the methodology</li> <li>Approve the allocation</li> </ul>
<ul style="list-style-type: none"> <li>Develop the top-level System Specification</li> </ul>	<ul style="list-style-type: none"> <li>Approve and publish the System Spec</li> </ul>
<ul style="list-style-type: none"> <li>Define interface requirements between functional areas</li> </ul>	<ul style="list-style-type: none"> <li>Approve and publish the IRDs</li> </ul>
<ul style="list-style-type: none"> <li>Evaluate conflicts and recommend resolution to PEO</li> </ul>	<ul style="list-style-type: none"> <li>Identify conflict areas</li> <li>Brief issues to PEO for decision</li> </ul>
<ul style="list-style-type: none"> <li>Develop the technical/programmatic “Roadmap” to achieve FORCEnet/GIG and other objectives.</li> </ul>	<ul style="list-style-type: none"> <li>Provide guidance base on inputs from the PMWs and external sources</li> </ul>
<ul style="list-style-type: none"> <li>Provide overarching technical guidance and coordination for the budget process.</li> </ul>	<ul style="list-style-type: none"> <li>Approve guidance prior to issuance</li> </ul>
<ul style="list-style-type: none"> <li>Assess LSI products and processes to ensure they take an end-to-end view of technical and resource issues.</li> </ul>	<ul style="list-style-type: none"> <li>Monitor end-to-end compliance</li> </ul>
<ul style="list-style-type: none"> <li>Assess quality and collaboration across the LSIs</li> </ul>	<ul style="list-style-type: none"> <li>Review assessments</li> </ul>

# Proposed Functional LSI Responsibilities

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<b>LSI Role</b>	<b>Associated Government Role</b>
<ul style="list-style-type: none"> <li>• Derive the implementing architecture in the functional area</li> </ul>	<ul style="list-style-type: none"> <li>• Provide overarching architectural framework.</li> <li>• Approve LSI proposed architecture</li> </ul>
<ul style="list-style-type: none"> <li>• Develop systems engineering documentation to support the functional area</li> </ul>	<ul style="list-style-type: none"> <li>• Approve and publish the documents</li> </ul>
<ul style="list-style-type: none"> <li>• Integrate development schedules within the functional area</li> </ul>	<ul style="list-style-type: none"> <li>• Provide schedules and guidance</li> <li>• Approve and publish integrated schedules</li> </ul>
<ul style="list-style-type: none"> <li>• Develop “ilities”</li> </ul>	<ul style="list-style-type: none"> <li>• Provide requirements and approve plans</li> <li>• Provide facilities to implement as required</li> </ul>
<ul style="list-style-type: none"> <li>• Develop top level integration/interoperability test requirements and plans</li> </ul>	<ul style="list-style-type: none"> <li>• Approve test requirements</li> </ul>
<ul style="list-style-type: none"> <li>• Provide CM and QA for systems within purview of Functional PM</li> </ul>	<ul style="list-style-type: none"> <li>• Approve CM and QA Plans</li> </ul>
<ul style="list-style-type: none"> <li>• Act as ISEA for product line</li> </ul>	<ul style="list-style-type: none"> <li>• Provide government support as needed</li> </ul>
<ul style="list-style-type: none"> <li>• Conduct integration test in the functional environment</li> </ul>	<ul style="list-style-type: none"> <li>• Provide test facility with all systems that constitute the functional architecture</li> </ul>
<ul style="list-style-type: none"> <li>• Develop system requirements for new programs</li> </ul>	<ul style="list-style-type: none"> <li>• Provide requirements for developments</li> <li>• Approve system requirement documents</li> </ul>
<ul style="list-style-type: none"> <li>• Develop procurement specifications</li> </ul>	<ul style="list-style-type: none"> <li>• Approve procurement planning documents</li> <li>• Approve specifications</li> </ul>
<ul style="list-style-type: none"> <li>• Responsible for all development work</li> </ul>	<ul style="list-style-type: none"> <li>• Approve LSI proposed acquisition approach</li> <li>• Oversee developments</li> </ul>



# Proposed Functional LSI Responsibilities

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Functional LSI Role	Associated Government Role
<ul style="list-style-type: none"> <li>• Procure product</li> </ul>	<ul style="list-style-type: none"> <li>• Approve acquisition approach</li> <li>• Approve selection of vendor</li> </ul>
<ul style="list-style-type: none"> <li>• Integrate at the subsystem and system level</li> </ul>	<ul style="list-style-type: none"> <li>• Monitor integration tests</li> <li>• Perform IV&amp;V and FAT</li> </ul>
<ul style="list-style-type: none"> <li>• Provide technical support for the budget process including proposed delivery/funding profiles and expected R&amp;D activities.</li> </ul>	<ul style="list-style-type: none"> <li>• Provide programming objectives</li> <li>• Provide funding profiles</li> </ul>
<ul style="list-style-type: none"> <li>• Assist in determining O&amp;M costs and propose ways to reduce/minimize them.</li> </ul>	<ul style="list-style-type: none"> <li>• Provide supporting data</li> </ul>
<ul style="list-style-type: none"> <li>• In conjunction with government and SETA team members propose and implement risk management plans.</li> </ul>	<ul style="list-style-type: none"> <li>• Approve approach and plans</li> </ul>
<ul style="list-style-type: none"> <li>• Provide technical support and data for Business Case Analyses (BCAs) Total Ownership Cost (TOC) and trade studies to facilitate government decision-making.</li> </ul>	<ul style="list-style-type: none"> <li>• Approve process and study results</li> </ul>
<ul style="list-style-type: none"> <li>• Coordinate and collaborate with other functional and platform LSIs to achieve end-to-end integration, interoperability, reduced costs and synchronization of programs.</li> </ul>	<ul style="list-style-type: none"> <li>• Include requirements for integration, interoperability, reduced costs and synchronization in the scope of work</li> </ul>

# Proposed Platform LSI Responsibilities

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Functional LSI Role	Associated Government Role
<ul style="list-style-type: none"> <li>Define unique systems to be acquired by the functional groups to meet platform requirements</li> </ul>	<ul style="list-style-type: none"> <li>Platform PEO provide system requirements</li> <li>PMW define overall platform requirements</li> <li>PMW provide unique platform requirements to LSI</li> </ul>
<ul style="list-style-type: none"> <li>Integrate functional program development schedules</li> </ul>	<ul style="list-style-type: none"> <li>Provide development schedules</li> <li>Approve integrated schedule</li> </ul>
<ul style="list-style-type: none"> <li>Plan systems procurement</li> </ul>	<ul style="list-style-type: none"> <li>Provide requirements</li> </ul>
<ul style="list-style-type: none"> <li>Develop installation documentation</li> </ul>	<ul style="list-style-type: none"> <li>Approve documentation</li> </ul>
<ul style="list-style-type: none"> <li>Develop bid packages for alterations</li> </ul>	<ul style="list-style-type: none"> <li>Approve and submit documents</li> </ul>
<ul style="list-style-type: none"> <li>Set up LBTS for each platform prior to install to validate configuration</li> </ul>	<ul style="list-style-type: none"> <li>Provide necessary infrastructure support as required</li> </ul>
<ul style="list-style-type: none"> <li>Support all INCO at the shipyard</li> </ul>	<ul style="list-style-type: none"> <li>Establish alliance with SHAPM/SLM to enable</li> </ul>
<ul style="list-style-type: none"> <li>Conduct installation testing after shipyard installation</li> </ul>	<ul style="list-style-type: none"> <li>Establish test environment to support tests as required</li> </ul>
<ul style="list-style-type: none"> <li>Sell off the system after testing</li> </ul>	<ul style="list-style-type: none"> <li>Accept system and present for OPEVAL</li> </ul>
<ul style="list-style-type: none"> <li>Integrate DT and OT preparations and accomplishment</li> </ul>	<ul style="list-style-type: none"> <li>Integrate among the Functional PMWs to enable</li> </ul>

# Proposed Platform LSI Responsibilities

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Platform LSI Role	Associated Government Role
<ul style="list-style-type: none"> <li>• Provide technical support for the budget process including proposed platform integration and required delivery costs and schedules.</li> </ul>	<ul style="list-style-type: none"> <li>• Provide programming objectives</li> <li>• Provide funding profile(s)</li> </ul>
<ul style="list-style-type: none"> <li>• Estimate O&amp;M costs and propose ways to reduce/minimize them.</li> </ul>	<ul style="list-style-type: none"> <li>• Provide supporting data</li> </ul>
<ul style="list-style-type: none"> <li>• In conjunction with government and SETA team members propose and implement risk management plans.</li> </ul>	<ul style="list-style-type: none"> <li>• Approve approach and plans</li> </ul>
<ul style="list-style-type: none"> <li>• Provide technical support and data for Business Case Analyses (BCAs) Total Ownership Cost (TOC) and trade studies to facilitate government decision-making.</li> </ul>	<ul style="list-style-type: none"> <li>• Approve process and study results</li> </ul>
<ul style="list-style-type: none"> <li>• Coordinate and collaborate with other functional and platform LSIs to achieve end-to-end integration, interoperability, reduced costs and synchronization of programs.</li> </ul>	<ul style="list-style-type: none"> <li>• Include requirements for integration, interoperability, reduced costs and synchronization in the scope of work</li> </ul>

# Risks

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Risk	Impact	Mitigation Plan
Start-up difficulties will be greater than expected	Bad press, discouraged PEO leadership and “second thoughts” about LSI strategy	Plan carefully and deliberately. Carefully establish progress metrics that not only show performance relative to mission, but also show progress toward the organizational goal of reducing costs and increasing efficiency.
Funding sponsors and PMWs will balk at this concept and cite “Title 10” authority to retain their old relationships	PEO will be put on the defensive and may succumb to pressure to scrap the concept	Convince PMWs this is to their advantage. Gain and maintain centralized control of detailed budget development, which will make the “Title 10” claim moot.
LSI contracts are “too large” to handle effectively	Mission objectives are not met	Train PMs to manage the process and not the details of LSI activities. Focus PMs on EVMS, Risk Management and control of the contract scope changes. Ensure that SPAWAR 02 staffing is protected.
SPAWAR 02 unable to execute or “manage” LSI contracts in timely manner	LSI concept will fall apart due to failure to execute	Gain RDA support for a temporary Navy Task Force to implement the LSI contracting strategy. Ensure that SPAWAR 02 staffing is protected.

## Risks (cont'd)

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Risk	Impact	Mitigation Plan
Trade study “losers” will perceive an OCI issue, and complain, if the LSI chooses its own products for any given capability	Creates management burden and potentially causes LSI concept to fail	Use the SA to ensure the LSIs implement open architecture solutions. Use the joint PMW/LSI IPT construct to ensure that LSI trades are done fairly. Publicly explain the process and the PMW’s confidence in it.
Lack of Coordination for integrated solutions across PEO C4I capability areas especially given recent re-organization	Lack of information to accurately address architecture plans for capability areas across platforms.	Establish top level SA to provide the essential integration direction and to oversee PMW achievement. Include all participants in planning; Flexible contract structure to incorporate emerging requirements.
Timely execution	Inability to capitalize on emerging technologies. Inhibits fielding of systems due to “waiting for new technologies”.	Incentivize innovation and schedule performance.
Poor Performance	High Cost Lack of system integration across PEO C4I capability areas.	Upfront involvement (IPTs) with OEMs/product developers in Developing Architecture. Incentivize performance.

## Risks (cont'd)

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Risk	Impact	Mitigation Plan
Ensure interoperability of multiple systems and platforms between LSIs	Loss of Interoperability Lack of cooperation across LSIs Sub-optimized overall integration efforts.	Associated Contract Agreements for all new platforms/system contractors; Establish integrated test plans across LSI capability areas. Incentivize collaboration and interoperability in award fee/award term plans.
Lack of SPAWAR 02 resources to support multiple contracts	Delays in construct process and operations	Increased automation Appropriate staff mix. Establish Tiger Team, using external resources
Lack of Tech code cycle time to monitor/grade, etc., incentive type contracts	Tech code work load increases	Increased Automation Simplified evaluation process. Assign SSCs specific responsibilities to support contract management
OCI	Limits Competition Inhibits collaboration	Include OCI clause that allows OCI mitigation plans.